

Shell/Sill Damage Changes

- Tank Shell Interior
 - Failure Type:
 - Add: Scores and Gouges; Repairs to Fire Damaged Tanks
 - How Repaired:
 - Add: Patch Plate Repair- AAR Tanks; Weld Surfacing (*weld buildup*); Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Pressing, or Jacking of Dents/Buckles of the Tank; Grinding and Blending with no Weld Buildup
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Patch Plate Repair; Weld Overlay (*repair by weld buildup*); Dents/Buckles; Scores and Gouges; Repairs to Fire Damaged Tanks
- Tank Shell Exterior
 - Failure Type:
 - Add: Scores and Gouges; Wheel Burns; Repairs to Fire Damaged Tanks
 - How Repaired:
 - Add: Weld Surfacing (*weld buildup*); Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Pressing, or Jacking of Dents/Buckles of the Tank; Grinding and Blending with no Weld Buildup
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Dents/Buckles; Scores and Gouges; Wheel Burns; Repairs to Fire Damaged Tanks
- Tank Head Interior
 - Failure Type:
 - Add: Scores and Gouges; Repairs to Fire Damaged Tanks
 - How Repaired:
 - Add: Patch Plate Repair- AAR Tanks; Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Pressing, or Jacking of Dents/Buckles of the Tank; Grinding and Blending with no Weld Buildup
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Patch Plate Repair; Weld Overlay (*repair by weld buildup*); Dents/Buckles; Scores and Gouges; Repairs to Fire Damaged Tanks; RIK – Replace in Kind

- Tank Head Exterior
 - Failure Type:
 - Add: Scores and Gouges; Wheel Burns; Repairs to Fire Damaged Tanks
 - How Repaired:
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Pressing, or Jacking of Dents/Buckles of the Tank; Grinding and Blending with no Weld Buildup
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Dents/Buckles; Scores and Gouges; Wheel Burns; Repairs to Fire Damaged Tanks; RIK – Replace in Kind
- Center Sill Web (*full sill*)
 - How Repaired:
 - Add: Reinforcing Plate Applications per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; RIK – Replace in Kind
- Center Sill Flange (*full sill*)
 - How Repaired:
 - Add: Reinforcing Plate Applications per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; RIK – Replace in Kind
- Center Sill Both (*full sill*)
 - How Repaired:
 - Add: Reinforcing Plate Applications per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; RIK – Replace in Kind
- Bolster Pad (tank cradle, top cover plate, BCPM)
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Inboard Tank Reinforcement Pad
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- UF (Sill) Web Inbd of Bolster
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind

- Brake Support
 - Failure Type:
 - Remove: Crack – Weld Not on Templates
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Tank Bolster
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Other
 - Failure Type:
 - Add: Scores and Gouges
 - Remove: Corrosion – Grouped Pits
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Straightening; Grinding and Blanding with no Weld Buildup; Repair of Threaded or Non-threaded Holes
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Dents/Buckles; Scores and Gouges; Welded Inserts and Tank Sections; RIK – Replace in Kind
- Stub Sill Web
 - How Repaired:
 - Add: Reinforcing Plate Application per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; FM Rule 82 – Weld Sill Outboard of Tank; RIK – Replace in Kind
- Stub Sill Top Flange
 - How Repaired:
 - Add: Reinforcing Plate Application per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; FM Rule 82 – Weld Sill Outboard of Tank; RIK – Replace in Kind
- Stub Sill Bottom Flange
 - How Repaired:
 - Add: Reinforcing Plate Application per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; FM Rule 57 – Center Sills; FM Rule 82 – Weld Sill Outboard of Tank; RIK – Replace in Kind

- Head Brace
 - Cause of Failure:
 - Remove: Corrosion
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Head Pad
 - Cause of Failure:
 - Remove: Corrosion
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Manway Nozzle
 - How Repaired:
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
 - Inspection Method
 - Add: [UTT] Ultrasonic Thickness
- Safety Valve Nozzle
 - How Repaired:
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
 - Inspection Method
 - Add: [UTT] Ultrasonic Thickness
- Top Fittings Nozzle
 - How Repaired:
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
 - Inspection Method
 - Add: [UTT] Ultrasonic Thickness

- Manway Nozzle Reinforcement Pad
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Dents/Buckles; RIK – Replace in Kind
- Safety Valve Nozzle Reinforcement Pad
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Dents/Buckles; RIK – Replace in Kind
- Top Fitting Reinforcement Pad
 - How Repaired:
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Dents/Buckles; RIK – Replace in Kind
- Turnbuckle Brackets
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Reinforcement Bars
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Skid Attachment to Pad or Tank
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Tank Anchor Pad (*Full Sill Cars*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening; Repair of Threaded or Non-threaded Holes
 - Remove: Stub Sill Repairs; Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Tank Anchor Web (*Full Sill Cars*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind

- Miscellaneous Attachment Welds
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Tank Stiffener Horn (*Full Sill Aluminum Car*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; Dents/Buckles; RIK – Replace in Kind
- Bolster Web (*BWPM*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Bolster Bottom Cover Plate (*BBPM*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Bolster Web Stiffener (*WBSW*)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Straightening
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Splice Plates
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Wing Bars
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Sill Center Filler (Above center plate)
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Miscellaneous Tank Pad
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind

- BOV Skid
 - How Repaired
 - Add: RIK – Replace in Kind Not Otherwise Listed in the Repair Codes
 - Remove: Welding of Cracks; Repair of Surface Cracks; RIK – Replace in Kind
- Sump
 - Failure Type
 - Add: Repairs to Fire Damaged Tanks
 - Remove: Crack – Girth Seams / Butt Welds
 - How Repaired
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Repairs to Fire Damaged Tanks; RIK – Replace in Kind
- BOV Mounting Saddle
 - Failure Type
 - Add: Repairs to Fire Damaged Tanks
 - Remove: Crack – Girth Seams / Butt Welds
 - How Repaired
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Repair of Threaded or Non-threaded Holes
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Repairs to Fire Damaged Tanks; RIK – Replace in Kind
- Wash Out
 - Failure Type
 - Add: Repairs to Fire Damaged Tanks
 - Remove: Crack – Girth Seams / Butt Welds
 - How Repaired
 - Add: Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat
 - Remove: Welding of Cracks; Repair of Surface Cracks; Random Pits; Grouped Pits/Corrosion; Weld Overlay (*repair by weld buildup*); Repairs to Fire Damaged Tanks; RIK – Replace in Kind

- Add Component: Fittings/Cover Plate
 - Failure Type
 - Corrosion – Random Pits; Corrosion – Grouped Pits; Scores and Gouges
 - Cause of Failure
 - Workmanship; Unknown; Overstressed/Abused/RR Damage
 - How Repaired
 - Weld Surfacing (*weld buildup*); RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Grinding and Blending with no Weld Buildup; Repair of Threaded or Non-threaded Holes
 - Location on Car
 - A End; B End; Center
 - Inspection Method
 - [LT] Leak Test; [MT] Magnetic Particle; [PT] Liquid Penetrant; [RT] Radiographic; [UT] Ultrasonic; [UTT] Ultrasonic Thickness; [VT] Direct Visual; [OT] Other
- Remove Components: Stub Sill Weld (For Reporting Template Codes); Brake Dead Lever; BOV or Sump or Washout Flange Attachment; Sill Pad (Outboard of Bolster); Stub Sill Structure – General

Attachment Weld Inspection Changes

- How Repaired
 - Remove all previous options
 - Add: Patch Plate Repair – AAR Tanks; Weld Surfacing (*weld buildup*); Welded Inserts and Tank Sections; Repairs to Tank Anchors; Reinforcing Plate Application per FM Rule 57; RIK – Replace in Kind Not Otherwise Listed in the Repair Codes; Welding with PWHT; Welding without PWHT or Pre-Heat; Welding with Pre-Heat; Pressing, or Jacking of Dents/Buckles of the Tank; Straightening; Grinding and Blending with no Weld Buildup; Repair of Threaded or Non-threaded Holes